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Hot-spot and cluster analysis on legal and illegal dumping sites as the contributors of leptospirosis in a flood hazard area in Pahang, Malaysia (Article)

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Abstract

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Background: Leptospirosis is one of the zoonotic diseases which pose major public health issues worldwide. The spread of leptospirosis depends on the climate conditions as well as environmental conditions. Methods: The cases of leptospirosis were determined by using database obtained from Ministry of Health, Malaysia. Case cluster and hot spot analysis within Geographical Information System (GIS) were done using ArcGIS version 9.3. Level of significance was set at alpha= 0.05. Results: Most of the cases were at the centre Pahang located along the flood hazard stream. Cluster analysis indicated that cases were mostly clustered near illegal and legal dumping sites. The outliers were Jerantut, Maran, Pekan, and Rompin in both maps ($p < 0.05$). The hot spot analysis obtained an obvious trend in the legal dumping compared to the illegal dumping. The hot spot area was found in the middle of Pahang such as in Jerantut, Temerloh, Maran, Pekan, and Rompin. Conclusions Increasing flood risk, poor sanitation and abundance of rats are conditions that trigger leptospirosis outbreaks. Interventions are therefore needed, targeting at environmental sources of transmission namely open legal and illegal dumping sites as well as flooding in flood hazard areas. A refined waste management system is needed to control the spread of the disease. © 2018, Asian Journal of Agriculture and Biology.

SciVal Topic Prominence

Topic: Leptospirosis | Leptospira | canine leptospirosis

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Author keywords

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Vinetz, J.M.
(2003) Archives of Disease in Childhood

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Felzemburgh, R.D.M. , Ribeiro, G.S. , Costa, F.
(2014) PLoS Neglected Tropical Diseases

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1 Ambu, S.
Rodents and disease-the never-ending problem
(2014) *IeJSME*, 8, pp. 1-2. Cited 3 times.

2 Guidelines for the control of leptospirosis
(1981) *WHO Offset Publ*, 67, pp. 1-171. Cited 2 times.

3 Badgie, D., Samah, M.A.A., Manaf, L.A., Muda, A.B.
Assessment of Municipal solid waste composition in Malaysia: Management, practice, and challenges

(2012) *Polish Journal of Environmental Studies*, 21 (3), pp. 539-547. Cited 34 times.

4 Barcellos, C., Sabroza, P.C.
Socio-environmental determinants of the leptospirosis outbreak of 1996 in western Rio de Janeiro: A geographical approach

(2000) *International Journal of Environmental Health Research*, 10 (4), pp. 301-313. Cited 35 times.
doi: 10.1080/0960312002001500

View at Publisher

5 Brown, C.
Emerging zoonoses and pathogens of public health significance - An overview
(Open Access)

(2004) *OIE Revue Scientifique et Technique*, 23 (2), pp. 435-442. Cited 97 times.
http://www.oie.int/fr/publications-et-documentation/
doi: 10.20506/rst.23.2.1495

View at Publisher

6 Dias, J.P., Teixeira, M.G., Costa, M.C.N., Mendes, C.M.C., Guimarães, P., Reis, M.G., Ko, A., (...), Barreto, M.L.
Factors associated with Leptospira sp infection in a large urban center in northeastern Brazil

(2007) *Revista da Sociedade Brasileira de Medicina Tropical*, 40 (5), pp. 499-504. Cited 35 times.
http://www.scielo.br/pdf/rsbmt/v40n5/a02v40n5.pdf
doi: 10.1590/S0037-86822007000500002

View at Publisher

7 Ganoza, C.A., Matthias, M.A., Collins-Richards, D., Brouwer, K.C., Cunningham, C.B., Segura, E.R., Gilman, R.H., (...), Vinetz, J.M.
Determining risk for severe leptospirosis by molecular analysis of environmental surface waters for pathogenic Leptospira (Open Access)

(2006) *PLoS Medicine*, 3 (8), pp. 1329-1340. Cited 103 times.
http://medicine.plosjournals.org/archive/1549-1676/3/8/pdf/10.1371_journal.pmed.0030308-L.pdf
doi: 10.1371/journal.pmed.0030308

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